USSR

IVANOV, O. S., et al., Izd-vo "Nauka," Moscow, 1973 199 pp

2/4

USSR   UDC 669.296;620.18;669.017.11

.IVANOV, O. S., ADAMOVA, A. S., TARARAYEVA, YE. M., and TREGUBOV, I. A.,
Struktura Splavov Tsirkoniya (The Structure of Zirconium Alloys), Akademiya
Nauk SSSR, Izd-vo "Nauka," Moscow, 1973, 199 pp

Translation of Annotation: A critical generalization is presented of
investigations published until 1970. The structure of zirconium alloys
in states of equilibrium and inequilibrium is examined. The structure in
the state of equilibrium , discussed in the first part of the book, is
analyzed from structural diagrams of binary and ternary systems on a zirco-
nium base. In the second part general rules are given for the formation
of metastable phases in zirconium alloys and also the structure of alloys
in inequilibrium state in concrete diagrams of binary and ternary alloys.
A list of the investigated systems is presented. The publication is intended
for investigators, including scientists, metallurgists, and mechanical
engineers working in the fields of investigation, development, and production
and application of zirconium alloys; it is also intended for teachers and
students at metallurgical and mechanical higher institutes of learning.
Eight tables, 222 figures, 594 bibliographic references.

Translation of Table of Contents:

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CIRC ACCESSION NO--AP0137663

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FAST N AND GAMMA QUANTA ARE MEASURED FOR SPONTANEOUS FISSION OF PRIME252 CF WITH EMISSION OF LONG RANGE ALPHA PARTICLES, IN RELATION TO THEIR EMISSION FOR BINARY FISSION. FRAGMENTS WERE REGISTRATED WITH AN IONIZATION CHAMBER, ALPHA PARTICLES WITH A SURFACE BARRIER DETECTOR, N WITH A STILBENE CRYSTAL, AND GAMMA RAYS WITH A NAI(TL) CRYSTAL. THE N NO FOR THE TERNARY FISSION WAS 2.83 PLUS OR MINUS 0.07. THIS VALUE DIFFERS SLIGHTLY FROM THAT FOUND BY NARDI AND FRAENKEL (1968), 3.11 PLUS OR MINUS 0.06. THE NOS. AND SPECTRA OF THE GAMMA QUANTA ARE EQUAL IN BOTH BINARY AND TERNARY FISSION PROCESSES. THE N AND GAMMA QUANTA EMITTED WITH ENERGIES GREATER THAN 2 MEV DECREASE WITH RISE OF THE ALPHA PARTICLE ENERGY. IT IS ESTD. THAT THE FRAGMENT EXCITATION ENERGY IS 7 MEV AT THE INSTANT OF THE ALPHA PARTICLE EMISSION.

TITLE--NEUTRONS AND GAMMA QUANTA FROM THE TERNARY FISSION OF CALIFORNIUM
  252 -U-

AUTHOR-(05)-ADAMOV, V.M., DRAPCHINSKIY, L.V., KOVALENKO, S.S., PETRZHAK,
  K.A., TYUTYUGIN, I.I.

COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(5), 1001-5

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--NEUTRON, GAMMA QUANTUM, NUCLEAR FISSION, CALIFORNIUM ISOTOPE,
  EXCITATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0578   STEP NO--UR/0367/70/011/005/1001/1005

CIRC ACCESSION NO--AP0137663
                        UNCLASSIFIED

TOMOGRAPHY IN DIAGNOSING ORBITAL NEWGROWThS

N. T. Adamov, G. I. Okulova, E. I. Gasparyan

Summary

Experience gathered by the authors gives ground to assert that laminar investigation of the orbit alongside with a more precise definition of topical data facilitates establishing the character of the neoplasm growth, of its morphological picture and of external outlines and shape. It also permits judgement to be formed as to the extent of the pathological process and the state of anatomic formations surrounding the orbit. The results of these investigations prompted the authors to conclude that tomographic examination of the orbit holds great promise in matters of diagnostication and may be recommended for wide use in medical practice.

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USSR   UDC 576.851.315.095.13.547.96 .2

ADAMOV, A. K. and SOLODOVNIKOV, N. S., All-Union "Mikrob" Plague Research
Institute, Saratov

"Effect of Histones and Specific Antibodies on the Viability of Cholera
Vibrios"

Abstract: The vibriostatic and vibriocidal action of histones is pH-dependent.
The proteins are more active in an acid medium than in a neutral one.   Non-
fractionated calf thymus histone is vibriocidal at a concentration of 0.05 to
0.01 mg/ml and pH 6.5 against El Tor and other vibrios. The histone fractions
vary in activity: the f_1 fraction is weakly vibriocidal at 0.01 mg/ml and pH
6.5; the f_{2a} and f_{2b} fractions are vibriocidal at 0.01 mg/ml and pH 6.5 to 7.0
while the f_3 fraction is vibriocidal at 0.005 to 0.01 mg/ml and pH 6.5 to 7.0.
Normal serum globulins inhibit the antivibrio activity of the histones, whereas
cholera immunoglobulins intensify it.

1/1

CIRC ACCESSION NO--AP0140350
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERMAL AND CATALYTIC
HYDROSTANNATION OF ACETYLENIC AND VINYL ACETYLENIC TERTIARY ALCS. WAS
STUDIED. ET SUB3 SNH ADDED TO THE TRIPLE BONDS OF (HO)AC TRIPLE BOND CH
AT 80-90DEGREES UNDER N TO GIVE TRANS (HO)ACH:CHSNET SUB3, WHERE A
EQUALS ME SUB2 C, MEETC, MEPRC, ME(ISO-PR) C, CYCLOPENTYLIDENE, AND
CYCLOHEXYLIDENE. A(OH)C TRIPLE BOND C, CH:CH SUB2 AND ET SUB3 SNH GAVE
A(OH)CH:C(SNET SUB3)CH SUB2 CH SUB2 SNET SUB3 AND A (OH)CH:C(SNET
SUB3)CH:CH SUB2, WHERE R EQUALS ME SUB2 C AND MEETC.   ME SUB2
C(OH)CH:C(SNET SUB3) CH:CH SUB2 HYDROGENATED OVER RANEY NI GAVE ME SUB2
C(OH)CH:CETSIET SUB3.   FACILITY: TBILIS. GOS. UNIV., TBILISI,
USSR.

TITLE--REACTION OF TRIETHYLHYDROSTANNANE WITH ACETYLENIC AND
   VINYLACETYLENIC TERTIARY ALCOHOLS -U-

AUTHOR-(03)-GVERDTSITELI, I.M., ADAMIYA, S.V., KATSITADZE, M.M.

COUNTRY OF INFO--USSR

SOURCE--SOOBSHCH. AKAD. NAUK GRUZ. SSR 1970, 57(1), 65-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANOTIN COMPOUND, ALIPHATIC ALCOHOL, TERTIARY ALCOHOL,
   CATALYTIC HYDROGENATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605013/B06 STEP NO--UR/0251/70/057/001/0065/0068

CIRC ACCESSION NO--AP0140350
                          UNCLASSIFIED

USSR   UDC: 632.95

GVERDTSITELI, I. M., MUKHASHAVRIYA, A. L., TSIRGILADZE, T. V., ADAMIYA, S. V.,
TALIYA, D. P., TSINTSADZE, E. S., and KAPANADZE, G. G., Institute of Plant Pro-
tection, Academy of Sciences, Georgian SSR

"Study of the Toxicity of Certain Organotin Preparations for the European
Spruce Bark Beetle (Dendroctonus micans kugel)"

K izucheniyu toksicheskikh svoystv nekotorykh olovoorganicheskikh preparatov
protiv bol'shogo yelovogo luboyeda (Dendroctonus micans kugel) (cf. English
above), Tbilisi, 1970, 8 pp, bibliogr. 4 titles (from RZh-Khimiya, No 23, 10
Dec 70, Abstract No 23 N726 Dep)

Translation: The toxicity of some new organotin unsaturated alcohols was stu-
died under Georgian conditions. The preparations were effective in controlling
the European spruce bark beetle both in the laboratory and in the field.

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USSR

SHISHMAKOV, A. S., et al., Izvestiya Akademii Nauk SSSR, No 2, Mar-Apr 72, pp 123-129

It was concluded that the texture change starts sooner in the internal layers as opposed to the external layers and that with increased aluminum content the start of texture alteration shifts to the region of minimum deformation. In alloys with 1-2% aluminum, in the region of average deforma- tions (ε = 60 and 40% respectively), there was observed an asymmetrical distribution of basal planes relative to the transverse direction. Four figures, 1 table, 9 bibliographic references.

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USSR

SHISHMAKOV, A. S., ADAMESKU, R. A., and GEL'D, P. V.

"Cold Rolling Texture in Ti-Al Alloys"

Abstract: Titanium alloyed with aluminum (0.36, 0.59, 1.04, 2.0, and 3.58% Al) was cast into 40-g ingots and hot rolled at 1100°C to a thickness of 10 mm followed by warm rolling at 800°C to a thickness of 4mm. The sheets were then anneale at 750°C for 1.5 hours. Cold rolling was performed to deformations of 20, 40, 60, and 70% in one direction on a mill with 260-mm diameter rolls. Final working of the alloys to 90% total reduction was done on a laboratory mill with 50-mm-diameter rolls. Texture was examined by x-ray diffraction.

It was ascertained that alloying titanium with aluminum alters cold rolling texture from $(0001)\pm \swarrow$ NN-PN /10$\bar{1}$0/ (unalloyed titanium and alloys containing up to 1% Al) to (0001$\pm \swarrow$ NN-NP/10$\bar{1}$0/ and (0001)/10$\bar{1}$0/(alloys containing from 2 to 4% Al). /NN--direction normal to plane of the sheet; PN--transverse direction relative to direction of rolling; NP--direction of rolling/.
1/2

USSR

SHISHMAKOV, A. S., et al., Fizika Metallov i Metallovedeniye, Vol 34, No 2, Aug 72, pp 442-443

Sn-0.7% Al is considerably lower than the energy in alloys with smaller contents of alloying elements. Obviously, there exists a correlation between the probability of deformation packing defects and the deformation mechanism of hexagonal titanium alloys. One table, eleven bibliographic references.

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USSR

UDC 543.316.2:669.295

SHISHMAKOV, A. S., ADAMESKU, R. A., and MIRZAYEV, D. A., Ural Polytechnic Institute imeni S. M. Kirov

"Packing Defects in Titanium α-Alloys"

Abstract: An x-ray study was made of the probability of deformation packing defects in titanium α-alloys with aluminum and tin in which the sliding takes place according to different systems. The magnitude of the diffraction widening β_{hkil} due to packing defects, calculated from

$$\beta_{hkil} = B_{hkil} - \frac{b^2}{B_{hkil}}$$

, where B_{hkil} = half width of the {hkil} line

and b=half width of the {0002} line, shows that the probabilities of deformation defects in titanium iodide and alloys with less than 1% Al and 2% Sn, are low. However, a further increase of the Al content up to 3.58% effects a sharp increase of the probability of deformation defects. The packing defect energy in the (0001) plane of Ti-1.86% Al, Ti-3.58% Al, and Ti-8.27%

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USSR

UDC 669.14.018.262

ADAMESKU, R. A., VOSTRIKOV, A. A., GUBCHESKIY, V. P., KARKOV, YU. N., and
NEMKINA, E. D., Ural Polytechnic Institute and the Magnitogorsk Metallurgical
Combine

"Recrystallization Texture of Low-Carbon Steel"

Abstract: The recrystallization texture of low-carbon steels O8Yu and O8Fkp
in all the investigated deformations (3-90%) was multi-component and can be
mainly described by three orientations: (111) $[\bar{1}12]$, (211) $[\bar{0}11]$, and (100)
$[\bar{0}11]$. The ratio between components varies with degree of deformation. The
main component in the recrystallization texture of low-carbon steels O8Yu and
O8Fkp is the orientation (111)$[\bar{1}12]$, the intensity of which is increased with
rise in the degree of reduction during cold rolling. A low temperature of
uncoiling hot-rolled strip for steel O8Yu and high for steel O8Fkp is necessary
for producing the strong component (111) $[\bar{-}112]$ in the weak component (100)
$[\bar{0}11]$ with the goal of improving the mechanical properties of low-carbon
steel. Here the degree of deformation during cold rolling should be not less
than 50%. Two figures, one table, 11 bibliographic references.

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USSR

SEVAST'YANOVA, I. A., et al., Biologicheskiye Nauki, No 6, 1971, pp 58-59

The results of the experiments show that under the influence of micro-
waves with a wavelength of 7.1 mm combined with sarcolysin or chrysomallin,
the number of bone-marrow cells does not decrease as sharply as when micro-
waves are not used. Moreover, the rate of restoration of the cell count
increases after the combined action.

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USSR

SEVAST'YANOVA, L. A., et al., Biologicheskiye Nauki, No 6, 1971, pp 58-59

animals (N_0).

There was a change in the N/N_0 ratio with time after the administration of chrysomallin. It decreased after 24 hours to 0.7 and after 3 days to 0.5 of the initial value. After 5 days the number of marrow cells increased, but the N/N_0 ratio did not return to normal, constituting 0.7 of the initial value. Twenty-four hours after the combined action of the microwaves and chrysomallin, the N/N_0 ratio decreased to 0.7 as was the case when chryso-mallin alone was used. After 3 days its value rose to 0.8 and after 5 days was normal, whereas after treatment with chrysomallin alone, the N/N_0 ratio remained 0.7.

There was also a change in the N/N_0 ratio with time following the admin-istration of sarcolysin. After 24 hours the ratio decreased to 0.4 and after 3 days to 0.1 of the initial value. After 5 days the number of cells increased; N/N_0 was 0.4. After 10 days the number of marrow cells returned to normal. N/N_0 did not drop as abruptly after the combined action of the microwaves and sarcolysin. The lowest N/N_0 after 3 days was 0.3 instead of 0.1. After 5 days it was 0.6 of the initial value, but after 10 days the number of marrow cells returned to normal.

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USSR

similar effect in an ultrahigh-frequency field with wavelengths of 5.8, 6.5, and 7.8 mm [2].

This article presents data on the effect of microwaves combined with antineoplastic chemotherapeutic agents on the number of bone-marrow cells.

The experimental animals were 120 male mice $(C_{57}Bl\ XCBA)F_1$ weighing 25 to 30 g. The animals were exposed to whole-body irradiation in a microwave field with the following parameters: wavelength 7.1 mm, magnetic field strength 2.5 mv/cm^2, duration of exposure 1 hour. The millimeter range microwave generator has already been described [1,2]. The first group consisted of animals that had not been exposed to microwaves and antineoplastic agents (control). The second included animals exposed to microwaves and given chrysomallin. The third received only chrysomallin. The fourth were irradiated and given sarcolysin. The fifth included animals that received only sarcolysin. The chemotherapeutic agents were administered once intraperitoneally immediately before irradiation: chrysomallin at the rate of 200 $\mu g/kg$ and sarcolysin at the rate of 10 mg/kg. The number of nucleated cells (N) in the bone marrow of the right femur was counted 1, 3, 5 and 10 days after the experimental action of the microwaves and compounds or only of the compounds and in the control

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USSR   UDC 612.419

SEVAST'YANOVA, L. A., GOLANT, M. B., ADAMENKO, V. G., and VILENSKAYA, R. L.,
Institute of Experimental and Clinical Oncology, Academy of Medical Sciences
USSR, and Scientific Research Institute of the Ministry of the Electronics
Industry

"Effect of Microwaves on Change in the Number of Bone-Marrow Cells Caused by
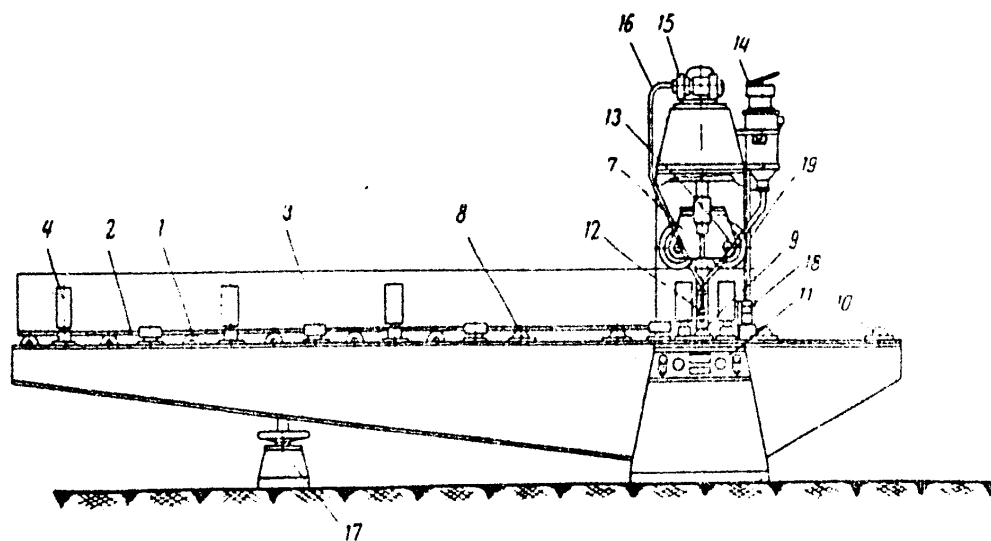Antineoplastic Chemotherapeutic Agents"

Translation: Experiments were performed on mice to study the effect of the
antineoplastic agents sarcolysin [phenylalanine mustard] and chrysomallin
[antibiotic 2703 - derived from Actinomyces fluorescens and containing 3 acti-
nomycins] combined with microwave radiation on bone marrow. The radiation was
found to weaken the effect of the compounds.
     In an earlier work we investigated increased resistance to ionizing
radiation following exposure of bone marrow to microwaves [1]. We showed that
preliminary microwave irradiation weakens the effect of x-irradiation. When
the order of the actions was reversed, the effect of x-irradiation was inten-
sified. In both cases we used microwaves with a wavelength of 7.1 mm and
x-rays at doses of 700, 1,400, and 2,100 r. We were unable to achieve a

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AA0108719

2/2

19900493

ADAMENKO S. N.

Acc. Nr:
AAO 108719 Abstracting Service: 3-7C Ref. Code:
UR 0482
Soviet Inventions Illustrated, Section II Electrical, Derwent,

243755 WELDING MACHINE FOR STRAIGHT T-BEAMS has welding
heads, positioning rollers and driving rollers
all mounted on a beam which can be pivoted in the vert-
ical plane. This imparts a bending stress to the T-beam
being welded, so counteracting the opposite stress due to
welding.
30.3.67 as 1145211/25-27. M.I.SHALYAPIN, S.N.ADAMENKO &
A.M. PALLER et al. (3.10.69) Bul 17/14.5.69. Class 21h.
Int.Cl. B 23k.

AUTHORS: Shalyapin, M. I.; Adamenko, S. N.; Paller, A. M.;
Kaprantsev, I. G.

18

UNCLASSIFIED   PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0052235
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FUNCTIONAL DISORDERS OF MECHANISMS
   REGULATING BLOOD CIRCULATION MAY LEAD TO APPEARANCE OF ASYMMETRIES OF
   THE ARTERIAL PRESSURE IN SYMMETRICAL VASCULAR REGIONS. DETERMINATION OF
   ASYMMETRY INDICES MAY BE A DIFFERENTIAL DIAGNUSTIC SIGN FOR EVALUATION
   OF THE DEGREE OF FUNCTIONAL DYNAMIC DISORDERS IN HYPERTENSIVE DISEASE.

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UNCLASSIFIED

1/2   025   UNCLASSIFIED   PROCESSING DATE--18SEP70
TITLE--VALUE OF DETERMINATION OF ARTERIAL PRESSURE ASYMMETRIES FOR THE
   CLINIC OF HYPERTENSIVE DISEASE -U-
AUTHOR--ADAMENKO, R.YA.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 2, PP 84-86

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD CIRCULATION, BLOOD PRESSURE, DIAGNOSTIC METHODS,
   HYPERTENSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1982/0798   STEP NO--UR/0475/70/000/002/0084/0036

CIRC ACCESSION NO--AP0052235
                          UNCLASSIFIED

CIRC ACCESSION NO--AP0134748
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT THE PRESENT TIME, ON THE
  BACKGROUND OF THE GROWTH OF STAPHYLOCOCCAL COMPLICATIONS EVERYWHERE, A
  ACONSIDERABLE INCREASE OF SUPPRATIONS OF BURNS WOUNDS IS NOTED (E.
  LOWBURG, I. BABB, AND V. BROWN, 1964). THIS CAN BE EXPLAINED TO A GREAT
  DEGREE BY LOWERING OF THE THERAPEUTIC EFFECT OF ANTIBIOTICS IN
  CONNECTION WITH THE EMERGENCE AND RAPID SPREAD OF STRAINS OF
  STAPHYLOCOCCI RESISTANT TO THEM. IT SUFFICES TO SAY THAT 78-97PERCENT
  OF THE STRAINS OF STAPHYLOCOCCI ISOLATED AT THE PRESENT TIME ARE
  RESISTNAT TO ANTIBIOTICS USED IN THE CLINIC (K. VUSKOVICH, 1966; M. G.
  ROGOL', 1967; V. I. GLADYSH, 1967; T. S. ZABALUYEVA AND V. G.
  DOROFECHUK, 1968, ETC). THIS DICTATES THE NEED TO FIND NEW AND
  EFFECTIVE METHODS OF COMBATING WOUND INFECTION, ESPECIALLY UNDER THE
  CONDITIONS OF BURN DIVISIONS.

UNCLASSIFIED

1/2   025   UNCLASSIFIED   PROCESSING DATE--04DEC70

TITLE--PROPHYLAXIS OF STAPHYLOCOCCAL COMPLICATIONS IN THE BURNED -U-

AUTHOR-(03)-PROSKUROV, V.A., KALASHNIKOV, A.P., ADAMENKO, N.N.

COUNTRY OF INFO--USSR

SOURCE--VOYENNO-MEDITSINSKIY ZHURNAL, NO 3, 1970, PP 26-28

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THERMAL BURN, STAPHYLOCOCCUS, PROPHYLAXIS, ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1048   STEP NO--UR/0177/70/000/003/0026/0028

CIRC ACCESSION NO--AP0134748
                    UNCLASSIFIED

EFFECTIVE VISCOSITY OF He II IN NARROW CAPILLARY TUBES

I. N. Adamenko, I. M. Fuks

A mechanism of interaction between a phonon gas and an absolutely hard surface is considered. In a number of cases the transition probability for scattering of quasi-particles on the He II — solid body interface is found in explicit form. The effective viscosity in narrow tubes filled with He II is calculated by applying the boundary conditions derived. It is assumed that the tube diameter is much smaller than the mean free path of elementary excitations. The effective viscosity significantly depends on the relation between the phonon wavelength and the characteristic size of roughnesses on the surface.

USSR

GOLIK, A. Z.; ADAMENKO, I. I.; VARETSKIY, V. V. (Kiev State University)

"Study of the Velocity of Ultrasonic Propagation at Frequencies of 0.62-10 Mc in n-Hexane, n-Heptane, n-Octane, and Cyclohexane at Pressures up to 2500 Atm. and Temperatures up to 120°C"

ABSTRACT: The paper describes the methods and results of studies on ultra-sonic velocity propagation in n-hexane, n-heptane, n-octane, and cyclohexane within a frequency range of 0.62-10 Mc at pressures up to 2500 atm. and tempera-tures up to 120°C. It is shown that within the ranges of temperatures, pressures, and frequencies studied, sonic velocity dispersion is absent for all parafins under study. For liquids in which the P-V-T relation is described by the Tait

equation the dependence of $\frac{c^2 \rho^2}{\gamma}$ on the pressure is linear.

At pressures from 1 to 2000 atm. a regularity is observed in the dispo-sition of the sonic velocity polytherms: the greater the energy of collective interaction, the greater the ultrasonic propagation velocity within the ranges of temperature and pressure studied. At pressures of 2000 atm. and higher the differences in ultrasonic velocities for all the liquids studied are within the limits of experimental error (less than 0.2%).

Using the Bridgman model on two mechanisms of the effect of pressure on the structure of the liquids, the authors came to the conclusion that with an increase in pressure the packing varies in a similar manner for n-hexane, n-heptane, and n-octane particles and at 2000-2500 atm. is similar to the pack-ing of cyclohexane molecules.

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USSR

ADAMENKO, I. A., et al., Khimiya Tverdogo Topliva, No 3, May-June 72, pp 65-71

germanium may be concentrated to 7 mg/ml by recirculating a 6 N HCl solution
6 times through a column containing the anion exchange resin saturated with
germanium; (7) it is possible to adsorb germanium by a fluidized bed of the
anion exchange resin; (8) suspended material (sols) did not reduce the
exchange of the fluidized bed of anion exchange resin with respect to germanium
if it were taken in a 1:1 ratio; (9) the separation of ion exchange resin from
the sol particles was practically complete; and (10) losses of anion exchange
resin up to about 5% are possible owing to its abrasion.

2/2

- 10 -

Ion Exchange

USSR   UDC 552.57:66.074.7:669.783

ADAMENKO, I. A., LOSEV, B. I., and YAVORSKIY, I. A., Institute of Combustible
Minerals

"Separation of Germanium by the Ion Exchange Method"

Abstract: In this paper the behavior of germanium in very dilute aqueous
solutions, obtained after treating Kuzbas coal, and its reaction with ion
exchange resins of type EDE-10P, are examined. These are significant in the
process of precipitation of this element on ion exchange resins. The mechanism
of active extraction of germanium from the waters, the quantitative rules in
the process of concentration, and the basic functions of ion-exchange equilib-
ria in the germanium-ion-exchange system were determined. The results include
the following: (1) basic anion exchange resins such as EDE-10P are useful for
precipitating germanium from dilute solutions; (2) the ion exchange capacity
increases more than 100 times in going from acidic (1 N HCl) to basic (pH 13)
environments; (3) treatment of the exchanger did not noticeably influence its
ion-exchange capacity; (4) the germanium was desorbed from the resin by acidic
and basic solutions; (5) the absorbing capacity of the anion exchange resin
increases with increasing concentration of germanium ions in solution; (6)
1/2

USSR

ADAMENKO, A. I., et al., Elektrotekhnika, No 3, 1971, pp 59-60

ordered stacking of conductors, industrial introduction of a developed proc-
ess for manufacturing magnetic wedges from FMDM, applications of these wedges,
industrial testing of experimental models of different motors with magnetic
wedges, and practical utilization of integrally molded magnetic circuits made
of magnetodielectrics in direct and alternating current micromachines. In
the resolutions of the session, it was recommended that magnetodielectrics,
especially for the manufacture of FMDM magnetic wedges, be introduced broadly.

2/2

ELECTRICAL ENGINEERING
Equipment

USSR   UDC 621.318.1(049)

ADAMENKO, A. I., Doctor of Technical Sciences, TROITSKIY, V. A., Candidate of
Technical Sciences, YAKOVLEV, A. I., Candidate of Technical Sciences

"Application of Magnetodielectrics in Electric Machines"

Abstract: This article contains abstracts of reports given at the plenary
session of the electric machine section of the Ukrainian NTO i EP on the prob-
lems of using magnetodielectrics in electric machines held in November 1970
at the Institute of the Electrodynamics of the Ukrainian SSR Academy of Sciences
in Kiev. The following topics were discussed in the reports: the state of the
art and prospects for development of magnetodielectrics in the USSR and ex-
perience in applying these materials in electric machines, the possibility of
obtaining magnetodielectrics with high magnetic and dielectric indexes, the
study of magnetodielectric materials and their industrial application for
magnetic wedges, several types of free-phase and single-phase salient pole
asynchronous electric motors with open slots magnetically encapsulated with
FMDM [ferromagnetic dielectric mass based on furane-epoxy resin and powdered
iron with different technological additives] and interchangeable coils with

1/2

USSR

ADAMENKO, A. I., ROLIK, A. I., PAVLOV, L. V., SHKIL'KO, G. YA., YAKOVLEV, A. I.

"Procedure for Manufacturing Stators for AC Electric Motors"

USSR Author's Certificate No 370697 (from Otkrytiya, Izobreteniya, Promyshlen-
nyye obraztsy, Tovarnyye znaki (Discoveries, Inventions, Industrial Models,
Trademarks, No 11, 1973, page 171)

Translation: This method of manufacturing stators for AC electric motors by
which the winding is placed in the gap of a nonmagnetic electrically conducting
mount, the mount is inserted into a hollow in the stator setting it by the
grooves opposite the stator grooves, an electric pulse is fed to the winding
to create a magnetic field pulling the winding into the stator grooves is
distinguished by the fact that in order to decrease the forces required to
throw the winding from the mount into the stator and increase the productivity
of labor, the grooves of the stator and the mount are made open and arranged
in parallel for each pair of poles of the planes, and the conductors of the
winding are shaped in advance into a coil group with calibrated grooved parts
and with soft frontal parts.

1/1

USSR

ARMI... ... ...
Dec 197...

a method of technological calculation of the moisture ... A ... ... of
the technological structures formed by ... ...
method is shown of finding the ... ...
nological parameters with a minimum extent of the ...
calculations in the study were conducted with the help of ...
1 fig. 1 tab. 1 ref. Received by editors, 2... June 197...

2/...

-17-

USSR

UDC

ADAMCHUK, V.G., IGNAT'YEV, L.N. [Deceased]

"Calculation Of Transistor Structures Of Integrated Circuits"

Izv. VUZ:Radioel Mkroelk, Vol XI, No 12, Dec 1974, p

Abstract: During calculation of the electrical parameters of transistors, one originates corrections with a determinist map of the actual distribution of impurities in the structure. It is necessary for this to take into account the following important factors: 1) Distribution of the impurity in the structure depends upon a multistage thermal process; and 2) by virtue of the probable dependence of the diffusion coefficient, distribution of an impurity with concentration above 10^{19} cm^{-2} does not coincide with the distribution described by a complementary function of the errors. In the present communication, ation of these factors is considered, a map of successive thermal process stage distribution giving an effective diffusion coefficient giving lower change after values of the surface concentration calculated in accordance of the junction. These equations are confirmed by ... [V.M. Adamchuk, ... et al. "Distribution of the impurity in a ... of the distribution of the impurity in ...

1/2

USSR

ADAMCHUK, L. V., and SAL'NIK, B. YU.

"The Effect of Some Rhodiola rosea and Pyridrol Preparations On the Plastic Metabolism of Rats During Exhaustive Muscle Loading", pp 90-93, Sintez Belka i Rezistentnost' Kletok (Proteins Synthesis and Cell Resistance), Leningrad, "Nauka," 1971, 104 pp

Abstract: A model of exhausting muscular work is described. Data are cited on the changes in the activity of proteolytic enzymes and on the content of RNA, DNA, and proteins in skeletal muscles, and also the level of DNA and RNA in the liver of white male rats when exhausted and during additional application of rhodozine (a purified water extract of the roots of Rhodiola rosea), n-tyrosol (n-hydroxyphenyl-beta-ethanol), rhodioloside (glucoside of n-tyrosol), and pyridrol. Possible mechanism of action of these preparations of plastic metabolism are examined.

1/1

USSR

UDC 669.71.053.4

YAKOVLEV, V. M., ADAMCHUK, I. P.

"Beresites and the Alumina Problem"

Translation: At the Laboratory of Experimental Meteorology and Geochemistry of Tomsk University preliminary studies were made of the possibility of using beresites to obtain Al_2O_3. After electromagnetic separation of the rock crushed to 0.1-1.0 mm, 35-40% high quality nepheline concentrate was obtained in which there was 31.2% Al_2O_3, 1.6% Fe_2O_3, and 1.8% FeO.

1/1

USSR   UDC: 621.317.44

PRUDKIY, V. P., ADAMCHUK, A. A., STETSENKO, O. A., GORDIYENKO, Yu. N.

"An Instrument for Measuring the Parameters of Magnetodielectrics"

Translation: The authors describe a highly sensitive measurement instal-
lation based on a traveling-wave resonator with the use of a loss compen-
sation device to increase sensitivity. This device is an asymmetric balance
circuit with an amplifying element connected in one of its arms. The sen-
sitivity limit of the installation is determined by the gain stability of
the amplifier and the transmission factor of the ring-shaped circuit line.
Data are given on the Q of the resonator and the sensitivity of the circuit.
One illustration, bibliography of two titles. N. S.

1/1

UDC 621.762.4.001

3

USSR

ADADUROV, G. A., BREUSOV, O. N., DREMIN, A. N., and DROBYSHEV, V. N., Institute of New Chemical Problems, Academy of Sciences USSR, Affiliate of Institute of Chemical Physics, Academy of Sciences USSR

"Influence of Shock Waves of Refractory Compounds. I. Nitrides of Niobium, Zirconium, Silicon, Chromium and Gallium"

Abstract: The influence of shock compression on the nitrides of gallium, zirconium, silicon, chromium, and niobium was studied. It was demonstrated that all of the materials studied are converted from powders to strong bars with high microporosity under the influence of shock compression. It is established that gallium nitride decomposes into its elements, while zirconium and silicon nitrides undergo no visible changes, and the quality of the crystalline lattice of chromium nitride is significantly decreased. The hexagonal epsilon phase of niobium nitride is converted to the cubic delta phase by shock compression.

1/1

properties of alloys based on iron, caused by the presence of trace impurities of compounds containing oxygen of the type of silicon monoxide.

Priority of Invention: 7 June 1951. Application No OT-3717

Established was the identity of processes taking place during the crystallization of solutions of mineral salts in the presence of a surface-active colloidal admixture, and secondary crystallization of iron-based alloys containing an admixture of silicon monoxide. The discovered effect permits creating a new theory connecting the properties of steel and iron-based alloys. Scientific principles of new technological processes have also been elaborated which assure, in combination with rational alloy-ing, obtaining alloys with prescribed properties.

G. A. ADADUROV, V. I. GOL'DANSKIY, T. N. IGNATOVICH, V. L. TAL'-ROZE, P. A. YAMPOL'SKIY, I. M. BARKALOV, A. N. DREMIN, and A. N. MIKHAYLOV. "The effect of formation of polymers in a shock wave."

Formulation of the discovery: Experimentally established was the previously unknown effect consisting in the fact that, as a result of passage of a shock wave through monomers present in a condensed phase polymers are formed, the characteristics of which depend on the amplitude of the shock wave.

Priority of Invention: 23 June 1964

Certificate No 125. Application No OT-3849

Investigation of this effect intensifies the understand-ing of processes taking place behind the front of a shock wave under the specific conditions of instantaneous unilateral im-mersion of a substance on the front. It substantially expands the area of application of shock waves and their technological use to obtain polymers whose characteristics can be varied by changing the conditions of effect of those waves.

YE. S. PASHKOVA, V. A. MOLCHANOV, D. D. ODITSOV, V. G. TEL'KOV-SKIY, AND V. M. CHICHEROV. "The effect of anisotropy of ion-elec-tron emission of single crystals."

Formulation of the discovery: Established was the pre-viously unknown effect of anisotropy of the ion-electron emis-sion of single crystals, consisting in reduction of the number of emitted electrons when the incident ions are directed along the crystallographic axes of the target.

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IN THE COMMITTEE FOR INVENTIONS AND DISCOVERIES
UNDER THE COUNCIL OF MINISTERS USSR

[Announcements; Moscow, Vestnik Akademii Nauk SSSR, Russian, No
7, July 1973, pp 132-133]

The Committee has registered the following scientific
discoveries:

V. P. KAZNACHEYEV, S. P. SHURIN and P. P. MIKHAYLOVA. "The ef-
fect of intercellular distant electromagnetic interactions in
a system of two tissue cultures."

Formulation of the discovery: Experimentally established
was the previously unknown effect of distant intercellular elec-
tromagnetic interactions between two tissue cultures during the
action on one of them of factors of biological, chemical or phy-
sical nature with characteristic reaction of the other (intact)
culture in the form of a "mirror" cytopathic effect, which
determines the cell system as a detector of modulation peculiar-
ities of electromagnetic radiation.

Priority of invention: 15 February 1966
Certificate No 122. Application No OT-7097

By this discovery the paths of experimental evaluation of
the role of quantum effects in biological systems are designated.
It can help practice in finding means of effect on pathological
processes by the coordination of noises arising in a photon chan-
nel of information transmission.

S. M. DARAHOY. "The effect of change of structure and proper-
ties of alloys."

Formulation of the discovery: Experimentally established
was the previously unknown effect of change of the structure and

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USSR

UDC 621.762.4.001

ADADUROV, G. A., BREUSOV, O. N., DREMIN, A. N., and DROBYSHEV, V. N., Institute of New Chemical Problems, Academy of Sciences USSR, Affiliate of Institute of Chemical Physics, Academy of Sciences USSR

"Influence of Shock Waves of Refractory Compounds. I. Nitrides of Niobium, Zirconium, Silicon, Chromium and Gallium"

Abstract: The influence of shock compression on the nitrides of gallium, zirconium, silicon, chromium, and niobium was studied. It was demonstrated that all of the materials studied are converted from powders to strong bars with high microporosity under the influence of shock compression. It is established that gallium nitride decomposes into its elements, while zirconium and silicon nitrides undergo no visible changes, and the quality of the crystalline lattice of chromium nitride is significantly decreased. The hexagonal epsilon phase of niobium nitride is converted to the cubic delta phase by shock compression.

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USSR

UDC 621.762.4.001

ADADUROV, G. A., BREUSOV, O. N., DREMIN, A. N., and DROBYSHEV, V. N., Institute of New Chemical Problems, Academy of Sciences USSR, Affiliate of Institute of Chemical Physics, Academy of Sciences USSR

"Influence of Shock Waves of Refractory Compounds. I. Nitrides of Niobium, Zirconium, Silicon, Chromium and Gallium"

Abstract: The influence of shock compression on the nitrides of gallium, zirconium, silicon, chromium, and niobium was studied. It was demonstrated that all of the materials studied are con- verted from powders to strong bars with high micro- porosity under the influence of shock compression. It is established that gallium nitride decomposes into its elements, while zirconium and silicon nitrides undergo no visible changes, and the quality of the crystalline lattice of chromium nitride is significantly decreased. The hexagonal epsilon phase of niobium nitride is converted to the cubic delta phase by shock compression.
1/1

USSR.

ADABASHEV, IGOR', Sotsialisticheskaya Industriya, 10 Oct 71, p 4

where we learn how far medicine has advanced by the year 2000. Cybernetics
is closely allied with medicine now, and many diagnostic and monitoring func-
tions are handled by computers. The hospital has an extensive "bank" of
organs available for transplanting, including very interesting artificial
eyes employing a radar device. In preventive medicine the program of
immunization is greatly expanded and early diagnosis has been carried to the
point of establishing "predispositions" to particular diseases which can be
"cured" by genetic influence. It will be possible to improve mental powers
using drugs "in certain cases," and new memory techniques will broaden the
mind in this respect. There will, however, be problems in the year 2000.
Foremost among them is the problem of nerves, the increasing load on human
nerves as the load is taken off physical powers and as all things continue to
speed up. Another major concern in 2000 will be the environment and the
question of the benefit of "progress" which damages our natural heritage, e.g.
industrial production with resulting pollution of air and water, or the
increasing solid waste problem as people live better and have more to discard.
Still, the average life expectancy in 2000 will be 80 years, and we can pre-
dict that children born in that year will live an average of 100 years.

2/2

· USSR ,

ADABASHEV, IGOR'

"What Is the Coming Century Preparing for Us?"

Moscow, Sotsialisticheskaya Industriya, 10 Oct 71, p 4

Abstract: Entering the landscape of the year 2000, we are first struck by how much higher the buildings are, up to 60-floor cylindrical apartment buildings. Entering the apartment, the furniture seems the same, the greatest change being more movable wall barriers. Air conditioning, luminescent walls, and so on are accessible to the majority in 2000, but not much changed. There are the videotelephone and color television with recording-playback unit; the phone can be dialed for the day's papers to appear on the screen. There is a robot maid in the closet who performs the everyday household chores. Turning on the television, we find the 28th Olympiad is being shown. There is a full choice of events on the various channels, and we watch as astounding new world records are set, such as 7' 10 1/2" in the high jump. The people at the event, and generally in the year 2000 wear casual sport clothing. Changing the channel we find a report from a plant on the moon, where various indus- tries take advantage of lunar resources and conditions (low temperature, vacuum). Another change of the television channel takes us to a hospital,

1/2

USSR

UDC 534-8

VAL'KOV, Yu. V., ACHILOV, M. F., KHODZHAYEV, S. A., KHALIULIN, M. G., ZABIBULLAYEV, P. K.

"Concerning the Application of Diffraction Methods to the Study of Acoustical Properties of Liquids"

Translation: Using the phenomenon of Bragg diffraction of light on acoustical waves, the authors conducted experimental studies on the rate of propagation v and absorption α of acoustical waves in distilled water over a wide frequency range (10-800 MHz). Acoustical waves were excited in the range 10-700 MHz using a quartz plate oscillating at odd harmonics and in the range 200-1000 MHz using a $LiNbO_3$ crystal in a coaxial resonator. The light source was a He-Ne gas laser. The following relationships were studied: $v = \phi(t°C)$ in the temperature range 10-90°C, $v = \phi(f)$ and $\alpha = \phi(f)$ in the frequency range 10-800 MHz at a temperature of 22°C. V. Semenov.

1/1

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USSR

ACHILOV, D.

"Investigation of One System of Functional Equations for Optimal Control
of the Creation of Reserves"

Tr. Samarkand. Un-ta [Works of Samarkand University], No 191, 1970, pp 35-38,
(Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract
No 3 V454, unsigned).

Translation: A theorem of existence and uniqueness is established for the
system of functional equations

$$u_i(t) = \Phi(t) + a \sum_{j=1}^{n} \int_{0}^{t} u_j(t-s)\, \psi_{ij}(s)\, ds, \quad i = 1, \ldots, N.$$

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CIRC ACCESSION NO--AP0135923

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDILD. AND DILD. WATER SAMPLES
FROM VARIOUS LAKES WITH WIDELY VARYING CONTENT OF NA, K, MG, CA, SO SUB4
PRIME2 NEGATIVE, CL PRIME NEGATIVE, AND HCO SUB3 PRIME NEGATIVE WERE
TESTED. INCREASING SALINITY OF WATER CAUSED A SLIGHT DECREASE IN SOLAR
STILL PRODUCTIVITY, AN INCREASE IN CORRODING ABILITY OF WATER, BUT DID
NOT SHOW ANY EFFECT ON THE QUALITY OF DISTILLATE.   FACILITY:
BUKHAR. GOSPEDINST., BUKHARA, USSR.

UNCLASSIFIED

1/2   020   UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--EFFECT OF THE SALT CONTENT IN WATER ON EVAPORATION IN SOLAR STILLS
   -U-
AUTHOR-(03)-BAYBUTAYEV, K.B., ACHILOV, B.M., KAMAEVA, G.

COUNTRY OF INFO--USSR

SOURCE--GELIOTEKHNIKA 1970, (2), 83-5

DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--SOLAR DISTILLATION, DISTILLATION EQUIPMENT, METAL CORROSION,
   SEA WATER DESALTING, EVAPORATION, EVAPORATOR, WATER PURIFICATION,
   SALINITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0460   STEP NO--UR/0377/70/000/002/0083/0085

CIRC ACCESSION NO--AP0135923
                        UNCLASSIFIED

USSR

It is proved that the number $\lambda^{(k)}$, defined by equality (5), is an eigenvalue of problem (1), (3) [(4)], and the system $\{\lambda^{(k)}\}$ contains all eigenvalues of problem E_0 [D_0].

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USSR

them. $L_2(Q,\sigma)$ denotes a Hilbert space of measurable functions $f(x,y)$ whose squares multiplied by $\sigma(x,y)$ are summable in region Q. The system of eigenfunctions $\dot{u}_\varepsilon^{(k)}(x,y)$ is a complete ortho-

normal system in space $L_2(G_\varepsilon,\sigma)$. It follows from the minimax principle that the eigenvalues $\lambda_\varepsilon^{(k)}$, given a fixed k and mono-

tonic vanishing of ε , do not increase. Consequently, there exists the limit

$$\lim_{\varepsilon \to 0} \lambda_\varepsilon^{(k)} = \lambda^{(k)}. \tag{5}$$

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USSR

ACHIL'DIYEV, A. I., Sibirskiy Matematicheskiy Zhurnal, Vol 12, No 1, Jan-Feb 71, pp 13-24

$$Lu_\epsilon = \lambda\sigma(x,\,y)u_\epsilon(x,\,y)$$

and are governed by the condition

$$u_\epsilon(x,\,y)\,|_{\Gamma_\epsilon} = 0.$$

For any fixed $\epsilon > 0$ there exist a countable sequence of eigen-values $\lambda_\epsilon^{(k)}$, $0 < \lambda_\epsilon^{(1)} \leqslant \lambda_\epsilon^{(2)} \leqslant \ldots \leqslant \lambda_\epsilon^{(k)} \leqslant \ldots, \lambda_\epsilon^{(k)} \to \infty$, given $k \to \infty$, which is nondecreasing with an increase in the number k, and the sys-tem of eigenfunctions $u_\epsilon^{(k)}(x,\,y) \in C_{2,\alpha}(\bar{G}_\epsilon)$ corresponding to

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USSR

(2) in G, and governed by the condition

$$u|_\Gamma = 0. \qquad (4)$$

A single method for finding all eigenvalues and corresponding eigenfunctions of problems D_o and E_o is indicated. The following regular problems are the point of departure: finding those values of parameter λ_ε for which there exist functions $u_\varepsilon(x,y)$ different from zero and continuous in G_ε which belong to C_2 and satisfy in G_ε the equation

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USSR

exist eigenfunctions $u(x,y) \in C_2(G)$ different from zero, bounded and continuous in $G + \gamma$, satisfying equation (1) in region G, and governed by the condition

$$u|_\gamma = 0. \qquad\qquad (3)$$

If for any number λ operator $L_\lambda u$ is v_λ-regular, the problem (problem D_0) is to find those values of parameter λ (eigenvalues) for which there exist eigenfunctions $u(x,y) \in C_2(G)$, different from zero, continuous in $\bar{G}$, satisfying equation

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USSR

ty assures the existence and uniqueness of the solution of problem E for equation (1) in K_d. Operator Lu is said to be v-regular if for any point $(x_0, 0) \in Y_c$ there exists the function $v(x,y)$, said to be the "barrier." v-regularity assures the existence and uniqueness of the solution of problem D in K_d for equation (1). Two forms of boundary value problems are considered, depending on whether operator Lu is w-normal or v-regular. Assume that for any number λ the operator $L_\lambda u = Lu - \lambda \sigma u$ is w_λ-normal in the region $K_{d(\lambda)}$, where on the basis of condition (1) the inequality $C(x,y) - \lambda \sigma(x,y) \geq 0$ is satisfied. Problem E_0 is to find those values of parameter λ (eigenvalues) for which there

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USSR

ACHIL'DIYEV, A. I., Sibirskiy Matematicheskiy Zhurnal, Vol 12, No 1, Jan-Feb 71, pp 13-24

$$\lim_{\nu \to 0} \frac{\sigma(x, y)}{C(x, y)} = 0 \qquad\qquad (2)$$

is satisfied uniformly relative to γ_0.

Operator Lu is said to be ω-normal if there exists the function $\omega(x, y)$, positive in the region K_d, which uniformly relative to γ_0 tends to infinity at $y \to 0$ and is such that $L\omega > 0$ in K_d, where d is a certain positive number. If d is sufficiently small and $C(x, y) - \lambda\sigma(x, y) \geqslant 0$ in K_d, then ω-normali-

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USSR

ACHIL'DIYEV, A. I., Sibirskiy Matematicheskiy Zhurnal, Vol 12, No 1, Jan-Feb 71, pp 13-24

ness of the resulting system of regular eigenfunctions. The author considers in G the elliptic equation

$$Lu \equiv -(Au_x)_x - (Bu_y)_y + C(x,\ y)u = \lambda\sigma(x,\ y)u(x,\ y), \qquad (\ )$$

where the coefficients A(x, y), B(x, y) are positive in $G + \gamma$ and belong to the class $C_{1,\alpha}$ ($G + \gamma$), and the coefficients $C(x,y)$, $\sigma(x,y)$ are positive in $G + \gamma$ and belong to the class $C_{0,\alpha}$ ($G + \gamma$). The function $\sigma(x,y)$ is summable in G and the relation

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- 3 -

ACHIL'DIYEV, A. I.

"Eigenfunctions of the Boundary Value Problem for an Elliptic
Equation Degenerate on the Boundary of a Plane Region"

Abstract: Let G be a bounded region on the plane of variables
(x, y) with the boundary Γ, consisting of the degeneracy manifold
γ_0 and line ℓ . It is assumed that γ_0 lies on the axis $y = 0$
and γ is situated in the half-plane $y > 0$ and belongs to class
$C_{2,\alpha}$. A previous article by the author suggested a method of
finding eigenfunctions of elliptic equations degenerate at points.
The present article extends this method to cover the case of
KELDYSH's boundary value problems D and E for an elliptic equa-
tion degenerate on the boundary part γ_0 and proves the complete-

USSR

YARAKHMEDOV, G. Ya., ACHELASHVILI, K. V.

"Some Properties of the Solution of Problems of Optimal Territorial Planning"

Metody i Modeli Territor. Planir. [Methods and Models of Territorial Planning -- Collection of Works], No 1, Novosibirsk, 1971, pp 154-167, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V472).

NO ABSTRACT.

1/1

USSR

ACHELASHVILI, K. V.

"Balanced Interregional Models and Their Utilization in Mathematical Economic Analysis of the Placement of Productive Forces"

Metody i Modeli Territor. Planir [Methods and Models of Territorial Planning -- Collection of Works], No 1, Novosibirsk, 1971, pp 181-221, (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V655).

NO ABSTRACT.

1/1

USSR

ACHELASHVILI, K. V.

"Mathematical Economic Analysis of Some Optimization Interrayon Models"

V sb. Metody i modeli territorial'n. planir. (Methods and Models of Territorial Planning -- collection of works), vyp. 2, Novosibirsk, 1971, pp 72-99 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V529)

No abstract

1/1

USSR

ACHASOVA, S. M.

"Concerning Accommodation of the Disjunctive Normal Forms of Boolean Functions on a Minimum Area in a Computer Medium"

V sb. Vychisl. sistemy (Computer Systems--collection of works), vyp. 47, Novosibirsk, 1971, pp 41-44 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V462)

Translation: The following theorem is proved. For the shortest disjunctive normal form of a Boolean function consisting of simple implicants, the product of the number of different letters which appear in the disjunctive normal form (x and $\bar{x}$ are different) by the number of conjunctions is a minimum compared with any other disjunctive normal form which realizes this Boolean function.

1/1

CIRC ACCESSION NO--AP0130333

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AMPEROMETRIC TITRN. WITH 10 PRIME
  NEGATIVE5 -3 TIMES 10 PRIME NEGATIVE3 M HG SUB2 (NO SUB3) SUB2 IS
  PROPOSED FOR DETN. OF THE SUM OF CL, HCLO, AND HCLO SUB3 IN A MEDIUM OF
  1M H SUB2 SO SUB4 WITH ADDN. OF 0.05-0.1 G KBR. AN EXTERNAL POTENTIAL
  OF PLUS 0.6 V IS APPLIED TO THE ELECTRODE COUPLE PT AND MOLAR HGI FOR
  THE SELECTIVE DETN. OF CL AND HCLO IN THE PRESENCE OF HCLO SUB3, ADD
  50-100 MG KBR TO THE NEUTRAL SAMPLE SOLN., REMOVE THE EXCESS OF FREE BR
  PRIME NEGATIVE BY ADDN. OF HG(NO SUB3) SUB2, MAKE THE SOLN. ACID BY
  ADDING THE SAME VOL. OF 2M H SUB2 SO SUB4 AND TITRATE WITH HG SUB2 (NO
  SUB3) SUB2. THE PRESENT METHOD IS SUITABLE FOR ANAL. OF TAP AND WASTE
  WATER. THE HIGHEST RELATIVE ERROR IN DETN. OF 0.009-3.4 MG CL WAS
  1.25PERCENT.   FACILITY: EREVAN. GOS. UNIV., EREVAN, USSR.

TITLE--AMPEROMETRIC DETERMINATION OF FREE CHLORINE AND HYPOCHLORITE BY
   MERCUROUS NITRATE -U-

AUTHOR-(03)-TARAYAN, V.M., ACHARYAN, G.S., DARBINYAN, G.A.

COUNTRY OF INFO--USSR

SOURCE--ARM. KHIM. ZH. 1970, 23(1), 27-30

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NITRATE, MERCURY COMPOUND, AMPEROMETRIC TITRATION, CHEMICAL
   ANALYSIS, WATER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1375   STEP NO--UR/0426/70/023/001/0027/0030

CIRC ACCESSION NO--AP0130333
                          UNCLASSIFIED

USSR UDC 612.822.3+154.2

ONIANI, T. N., KORIDZE, M. G., and ~~ARZLANIDZE, Ye. V.~~, Laboratory of Comparative Neurophysiology, Institute of Physiology, Academy of Sciences Georgian SSR, Tbilisi

"Electroencephalographic and Vegetative Correlates of Emotional Reactions"

Abstract: Changes occurring in the electroneocorticogram, electrohippocampogram, and heart rate during the development of various motivational-emotional reactions were investigated in cats with chronically implanted stereotaxic electrodes. Emotional reactions were evoked by electrical stimulation of the reticular formation, central gray matter, and hypothalamus. Intensification of the hippocampal theta rhythm with either an increase or a decrease in heart rate was the most characteristic electroencephalographic correlate of feeding, drinking, and defensive emotional reactions. On the other hand, electrical stimulation of the hypothalamus (ventromedial nucleus and the anterior region) inducing inhibition of natural behavior, including spontaneous feeding and drinking, resulted in inhibition of the hippocampal theta rhythm.
1/1

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USSR

IMSHENETSKII, A. A., LYSENKO, S. V., SOTNIKOV, G. G., ABYZOV, S. S.
(Institute of Microbiology, USSR Academy of Sciences)

"Effect of Very Low Temperatures on the ATP of Microorganisms"

Abstract: Very low temperatures were shown to have a stabilizing effect on
ATP. Microorganisms (Serratia marcescens, Sarcina flava, Bacillus simplex,
Zygosaccharomyces vini, Candida tropicalis) kept at -196°C (liquid nitrogen)
showed no loss of ATP. In non-spore-forming bacteria and yeasts stored at
+5°C the ATP was largely consumed. Bacillus simplex spores contain a rela-
tively small amount of ATP, which was not used up during storage at either
-196 or +5°C. The ATP was released from the cells by boiling and was de-
tected by the chemiluminescent reaction.

1/1

CIRC ACCESSION NO--AP0139046

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GLYCOPROTEINS OF THE SERUM AND
  TISSUE OF THE PALATINE TONSILS IN 44 PATIENTS WITH CHRONIC TONSILLITIS
  WERE STUDIED. THE METHOD OF QUANTITATIVE DETERMINATION OF GLYCOPROTEINS
  MAY BE USED IN THE CLINIC FOR THE DIAGNOSIS OF VARIOUS CLINICAL FORMS OF
  CHRONIC TONSILLITIS. CONSIDERABLE ACCRETION OF SUMMARY GLYCOPROTEINS IS
  NOTED IN THE TISSUE OF THE PALATINE TONSILS OF PATIENTS WITH CHRONIC
  TONSILLITIS. A CORRELATION WAS ESTABLISHED BETWEEN THE TISSUE AND SERUM
  GLYCOPROTEINS IN PATIENTS WITH SIMPLE CHRONIC TONSILLITIS AND AN INVERSE
  DEPENDENCE IN SOME OF THE PATIENTS WITH TOXICOALLERGIC CHRONIC
  TONSILLITIS.   FACILITY: KIEV INST. POSTGRAD. MED., KIEV, USSR.

UNCLASSIFIED

TITLE--GLYCOPROTEINS OF BLOOD SERUM AND TISSUES OF THE PALATINE TONSILS IN
    PATIENTS WITH CHRONIC TONSILLITIS -U-

AUTHOR--ABYZOV, R.A.

COUNTRY OF INFO--USSR

SOURCE--ZH USHN NOS GORL BOLEZ 30(1): 78-82. 1970

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD SERUM, LYMPHOID TISSUE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3009/0183   STEP NO--UR/0593/70/030/001/0078/0082

CIRC ACCESSION NO--AP0139046
                          UNCLASSIFIED

CIRC ACCESSION NO--AP0125893
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COKE WAS CRUSHED, TREATED WITH
63.5PERCENT HNO SUB3 AT SIMILAR TO 100DEGREES, WASHED WITH WATER AND
DRIED TO SIMILAR TO 120DEGREES. THE ASH IN THE COKE TREATED 1 AND 6 HR
WAS REDUCED FROM 0.84 TO 0.031 AND 0.005PERCENT, RESP. HNO SUB3 WAS
RECOVERED.   FACILITY: UFM. NEFT. INST., UFA, USSR.

UNCLASSIFIED

TITLE--LOW TEMPERATURE METHOD FOR DEASHING PETROLEUM COKE -U-

AUTHOR-(04)-ABYZGILDIN, YU.M., SYUNYAYEV, Z.I., BAYBAZAROV, A..., GIMAYEV,
   R.N.

COUNTRY OF INFO--USSR

SOURCE--KHIM. TEKHNOL. TOPL. MASEL 1970, 15(4), 27-9

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--COKE, NITRIC ACID, LOW TEMPERATURE EFFECT

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PROXY REEL/FRAME--3001/0058   STEP NO--UR/0065/70/015/004/0027/0029

CIRC ACCESSION NO--AP0125893
                         UNCLASSIFIED

USSR

UDC 666.76:669.056.9

ABZGIL'DIN, F. YU., AMIROV, R. A., and BIGLOV, A. KH., Ufa Aviation Institute imeni Sergo Ordzhonikidze, and KHOROSHAVIN, L. B., Eastern Institute of Refractories

"Refractory Coatings on Phosphate Bonds"

Abstract: Based on results of investigating the adhesive and cohesive strengths and thermal stability of materials on phosphate bonds, optimum compositions of coatings for the alloys 1Kh18N9T, EI-703, Sp-99, VT-9, OT-4, and EI-961, bronze KhO8, molybdenum and graphite were determined. The investigation included refractory coatings based on titanium, zirconium, hafnium, and silicon; hafnium, boron, and silicon nitrides; mullite, magnesian spinel, and calcium, barium, and strontium zirconates; molybdenum disulfide and disilicide and calcium titanate. Results are presented of determinations of working temperatures, ultimate shear strength, thermal stability of coatings, and electric conductivity and temperature conductivity of some compositions. The coatings are recommended as structural materials at 1000-1800°C. The electroninsulating materials on a corundum base can be used for preparing Nichrome tensometers with the mentioned alloys. The coating materials can also be used as ceramic adhesives for joining alloys, particularly graphite and ceramics, of different compositions. Two figures, three tables, fourteen bibliographic references.

1/1

Hydraulic and Pneumatic

USSR

ABUZOVA, F. F., ABRAMZON, L. S.

"Specifics of the Development of a Circular Stream Falling on a Flat Stream"

Translation: Results are presented from an experimental study of a flow in a fan stream formed upon collision of a circular stream of diameter $2r_0 =$

= 5 mm with a flat screen. The velocity fields are measured at $r/r_0 = 40-80$,

flow velocities 57-80 m/sec, distance between nozzle and screen $h/r_0 = 12-14$.

It is noted that there is significant divergence between the experimental data produced at great distances from the point of collision of stream with screen and the known integral theorems, which do not consider losses to stream rotation upon collision with the screen and to friction with the surface of the screen. 5 Biblio. Refs.

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USSR

BAGAYEV, V. B. et al, Khimiya v sel'skom khozyaystve, No 11, 1971, pp 51-53

potassium nutrition show that the least sensitive to 2M-4Kh were plants
cultivated with a double dose of potassium fertilizer. Further increase of
potassium nutrition (as well as a decrease in dose) adversely affected the
flax crop.

2/2

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· USSR   UDC 631.8+632.954:633.52.1

BAGAYEV, V. B. and ABUYEVA, A. A., Timirizyayev Agricultural Academy

"Effects of Various Levels of Nitrogen, Phosphorus and Potassium Nutrition
on the Sensitivity of Common Flax to the 2M-4Kh Herbicide"

Abstract: Research conducted in recent years indicates that the sensitivity
of plants to herbicides is largely a function of nutritional factors. This
investigation concerns the effect of various doses of nitrogen, phosphorus
and potassium on the sensitivity of common flax to the herbicide 2M-4Kh.
The dose levels were categorized as half-doses, ordinary doses, double doses
and for potassium -- also tripple doses. The nitrogen fertilizer was appli-
ed in the form of ammonium nitrate, the phosphorus fertilizer -- as monosub-
stituted calcium phosphate, and potassium -- as potassium sulfate. The
study shows that with an increase of the nitrogen fertilizer dose above the
ordinary norm, the sensitivity of the flax to the 2M-4Kh herbicide increases
with subsequent adverse effects on the crop. In experiments with phosphorus
nutrition, the lowest sensitivity to 2M-4Kh was shown with a double ferti-
lizer dose. The flax sensitivity to the herbicide was found to decrease
with an increase in the phosphorus nutrition level. Experiments involving

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USSR

ABDULLAYEV, G. B., et al., Izvestiya Akademii Nauk Azerbaydzhanskoy SSR, Seriya Fiziko-Tekhnicheskikh i Matematicheskikh Nauk, No 4, 1971, pp 100-113

on the selenium crystallization process and the structure of the resultant material. In the molten state selenium is a structurised system, and the growth of small crystals from such a melt may occur by the addition of ordered aggregates of macromolecules.

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USSR

ABDULLAYEV, G. B., et al., Izvestiya Akademii Nauk Azerbaydzhanskoy SSR,
Seriya Fiziko-Tekhnicheskikh i Matematicheskikh Nauk, No 4, 1971, pp 100-113

medium strong, and the rest weak. The optical density of bands at 20.4, 13.5,
and 16.0 microns is constant for all T_{tr}, while the T_{tr}-dependence of the op-
tical density of bands at 3.5, 4.6, and 9 microns is of an extremal character.

It was found for the first time that the degree of transmission (back-
ground) depends on T_{tr}. There are two types of background: 1) general back-
ground and (2) background increasing in the direction of the short-wave region
of the spectrum. The behavior of both backgrounds is of a regular character.
The likeliest cause of the appearance of background is the Tyndall effect.
General background may be due to scattering by large supramolecular formations,
the second background to the Rayleigh-Jeans mechanism. The previous temperature
history, along with the crystallization temperature, has a significant effect

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USSR

ABDULLAYEV, G. B., MAMEDOV, SH. V., ABUTALYBOVA, Z. M., IBRAGIMOV, N. I., and VOLCHENKOV, YE. YA., Institute of Physics, Academy of Sciences Azerbaydzhan SSR

"On Some Peculiarities of IR Absorption of Amorphous Selenium"

Abstract: The authors undertook to elucidate those peculiarities of the selenium IR spectrum which are related to its preheat treatment. The initial material was amorphous powdered selenium, purity 99.9999 percent (V-5). Three series of samples were fabricated; viz., (1) from V-5 selenium evacuated to $p \leq 10^{-4}$ mm Hg, (2) from selenium with 0.05 mol. percent I_2, and (3) from selenium with 0.05 at. percent Tl. All samples underwent heat treatment in the 280-700° C range. The IR spectra display bands at 3.5, 4.6, 9.0, 13.5, 16.0, 20.4 microns depending on T_{tr}, with the 20.4-micron band strongest, 13.5

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2/2   024   UNCLASSIFIED   PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0129395
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NONIONIC AND CATIONIC COMPDS. OF
  UNSTATED STRUCTURE WERE STUDIED IN KEROSINE SOLN. FROM 25 TO 100DEGREES.
  THE LATTER TYPE WAS MORE READILY ADSORBED AND LESS READILY DESORBED.
  THE DEGREE OF ADSORPTION OF THE COMPDS. SHOWED A VARYING RESPONSE TO
  INCREASE IN TEMP.; DESORPTION INCREASED. IN THE PRESENCE O H SUB2 O,
  ADSORPTION DECREASED AND DESORPTION INCREASED.

UNCLASSIFIED

TITLE--EFFECT OF TEMPERATURE ON THE ADSORPTION AND DESORPTION OF OIL
   SOLUBLE SURFACE ACTIVE AGENTS IN QUARTZ SAND UNDER DYNAMIC CONDITIONS
AUTHOR-(04)-MUSAYEV, R.A., TAIROV, N.D., KHALILOV, E.G., ABUTALYBOVA, R.N.

COUNTRY OF INFO--USSR

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DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TEMPERATURE DEPENDENCE, ADSORPTION, DESORPTION, SURFACE ACTIVE
   AGENT, SAND, KEROSENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0139   STEP NO--UR/0487/70/000/001/0028/0029

CIRC ACCESSION NO--AP0129395
                            UNCLASSIFIED

USSR

A 539.1.07

KISELEV, L. G., AGAPOV, S. A., KOP'YEV, YU. A., ABUSINA, I. N., KUROCHKIN, S. S., KULAGIN, M. A., PONOMAREV, B. N.

"Centralized Radiometric System MTsRS"

Tr. Soyuzn. N-I. In-Ta Priborostr. [Works of Union Scientific Research Institute for Instrument Building], No. 11, 1969, pp 112-125 (translated from Referativnyy Zhurnal Metrologiya I Izmeritel'naya Tekhnika, No. 4, 1970, Abstract No. 4.32.1513, unsigned)

Translation: The technical characteristics and operating principle of the MTsRS multi-channel centralized radiometric system are presented. The system allows fields of gamma and neutron radiation to be measured over a range of three orders of magnitude on a single scale using the corresponding transducers, the number of which may reach 500. The process of measurement and control is automated. The system allows several threshold values of the measured quantities to be set. The centralized radiometric system MTsRS contains three channels for individual measurement at recording with indication of channel number. Three illustrations, six biblio. refs.

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USSR

changes were less frequent. Gastrointestinal disorders (anorexia,
nausea, vomiting, and diarrhea) were less severe and lasted 4-7
days (initially 9-12 days). Bilirubin concentration in blood
increased to 1.2 mg% (up to 1.67 mg% initially). Leukocytosis
was less pronounced (10,000 versus 12,500). Serum autoagglutina-
tion tests were negative in 24 out of the 25 repeat patients.
The impaired immunogenesis was probably due to the immediate
administration of antibiotics at the onset of the first disease.

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USSR   UDC 616.002-71-071

KUTIKOV, Ye. Sh., Lt Col Med Serv; ABUSHKEVICH, P. V., Lt Col
Med Serv; ORLOV, O. V., Maj Med Serv

"Repeat Cases of Far Eastern Scarlatina-Like Fever"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 9, Sep 71, pp 57-59

Abstract: In 1968 and 1969, a study was performed on 310
patients with Far Eastern scarlatina-like fever (FESF) who were
admitted to the hospital from a collective where FESF outbreaks
have occurred each year since 1962. Of these, 25 patients went
through the disease twice and two patients three times, most of
them within 10-12 months, and only three patients within 1 1/2 -
2 months. In these three patients, the second case of the disease
was more severe than the first; in all others it assumed a lighter
form. Fever of 37.7°C lasted 3 days on the average, while it was
38°C for 5.5 days in initial cases. The prodromal general malaise
was less severe. Hyperemia of skin and mucous membranes and skin
rash were less marked and of shorter duration. Changes in heart
sounds were observed in four cases (initially in 12). Mild brady-
cardia and hypotension were observed equally frequently, but EKG
1/2

USSR

was among persons of a younger age and was apparently associated with the keeping of pigeons at home. Of the 51 patients 27 had the disease in a mild form, 18 in a moderately severe form, and 6 in an acute form. In cases in which the disease was initially mild, worsening of the health of the patients took place 2-3 months later; the patients had occasional fever, myalgia, insomnia, pain in the joints, and vegetative disturbances at the time of recurrence of the disease. Of 35 cases the histories of which are summarized, all were incorrectly diagnosed in the beginning, although sufficient information on ornithosis had been given to physicians by the medical authorities in Azerbaydzhan. In one case failure to diagnose the disease correctly was responsible for inadequate treatment and the death of the patient. Twenty one of the 35 patients developed pneumonia of various types and 4 sharpening of the lung outline. Some ornithosis patients developed considerable functional and organic changes in the nervous system. Cases of this type, in which the background of infection with ornithosis had not been recognized, were found by the authors in neurological departments of some hospitals.

2/2

IMAMALIYEVA, G. M., ABUSHEV, F. A., GEZALOVA, F. A., and KAKHRAMANOV, T. B.,
NIIVMiG imeni G. M. Musabektov and Chair of Infectious Diseases, Azerbaydzhan
State Medical Institute imeni N. Narimanov

"The Clinico-Epidemiological Characteristics of Ornithosis in Baku"

Abstract: Serological tests carried out on 3824 patients with various diseases
in Baku during 1966-71 showed that 342 of them (8.99%) had been infected with
ornithosis. Similar tests on 336 healthy persons (blood donors) indicated that
5% had been infected with ornithosis. During the period in question, 51 cases
of ornithosis were diagnosed among patients treated at hospitals and clinics.
Twenty six of the ornithosis patients were men and 25 women. Of the 51 patients,
21 kept pigeons or had some sort of contact with them; 3 kept in their rooms
fancy birds such as parrots, canaries, and goldfinches; and 17 had chickens,
geese, and ducks. In 10 cases the source of infection could not be established.
Of pigeons caught in Baku, 21.4% were infected with ornithosis. Of the orni-
thosis patients, 62.7% were 30-50 years old, 29.4% younger than 30 years, and
7.8% older than 50 years. As distinguished from Leningrad and Moscow, where
most cases of ornithosis are due to infection of persons of post-retirement
age from pigeons in squares and parks, the majority of infections in Baku
1/2

USSR   UDC: 621.396.6.002(088.8)

ZAKHAREVICH, Yu. I., ABUSHENKO, V. S., KRIVOSHEY, G. A.

"A Measuring Device"

USSR Author's Certificate No 266942, filed 28 Oct 68, published 14 Jul 70
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V316 P)

Translation: This Author's Certificate introduces a measurement device for
an automatic quality control machine for radio components. The device con-
tains a converter which changes the parameter being measured to an electric
signal, a commutator which is connected to the converter input, and a con-
verter control element connected to the commutator. To improve operational
reliability, the converter output is connected to a stationary element in
the commutator made in the form of a pulse light source and equipped with
a photocell array connected to the output terminals of the device, while
the moving element of the commutator, which is mechanically connected to
the control element of the converter, is made in the form of a disc with
slits located around the edge.

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USSR

ABUSEV, R. A., DEVINGTAL', Yu. V.

"On One Approach to Selecting the Number of Gradations of Tags and Their Bounds for Coding Objects in Pattern Recognition"

Translation: The following problem is considered. There are two classes, A_1 and A_2, of objects. Each object $x \in A_1, A_2$ is described by n tags $x^{(1)}, x^{(2)}, \ldots, x^{(n)}$. The a priori distributions of probabilities $p(A_1), p(A_2)$ of appearance of the classes are known, as is the probability density function of the k-th tag for the i-th class $f_i(x^{(k)})$ ($i = 1, 2; k = 1, m$). It is required to determine the least number of gradations of different tags, and bounds of gradations when the number of gradations is given. The problem reduces to conversion of an initial description S to a new and simpler description S*. Selection of the transformation $S^* = F(S)$ is based on the following considerations: 1) the new description S* must be simple and economical; 2) losses of information in transition from S to S* must be insignificant. Illustrative examples are given. V. Mikheyev.

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USSR

ABUSEV, R. A., DEVINGTAL', Yu. V., Uch. zap. Perm' un-t,1971, No 259,
pp 31-35

sense), the number of tags selected being $m \leq n$. A common disadvantage of
conventional algorithms for minimizing a description is that they are cum-
bersome and involve considerable expenditures of time for computer reali-
zation. Solution of the problem can be considerably accelerated by an
algorithm for selecting information tags by coefficients of the separating
hyperplane. It is assumed in this algorithm that the absolute values of
the coefficients of the separating hyperplane are proportional to the
relative informativeness of the corresponding tags. The authors give
the results of experiments on evaluating the informativeness of tags by
three methods of this type: coefficients of the separating hyperplane,
A. G. Frantsuz's method, and Yu. I. Neymark's method. E. Vagner.

2/2

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USSR

ABUSEV, L. A., LBTT... .', .. .

"Results of Experimenta on Selecting a Minimum Description in Pattern Recognition"

Uch. zap. Perm. un-t (Scientific Notes. Perm' University), 1971, No 240, pp 31-35 (from Ref-Kibernetika, No 1, Jan 72, Abstract No 1G697)

Translation: Let there be N_1 objects of class A and N_2 objects of class B. Furthermore, let each object from classes A and B be described by tags $x_1, x_2, ... x_n$. An object may be treated as a point in n-dimensional Euclidean space, and the classes A and B as certain sets of points in this space. The problem of instruction in classification of objects from classes A and B consists in constructing a resolving function which is optimum in some sense. It is assumed (as is the case in practical problems) that the number n of tags is fairly great, or measurements of values of certain tags involve considerable expenditures or technical difficulties. In either case, the problem of a minimum description arises, i. e. the problem of selecting from among the tags the most informative ones (in some

1/2

USSR   UDC: 621.315.612.5

MATYUKHIK, V. F., ABURAMOTO, I., MADRICHENKO, G. F.

"Determination of Losses of SHF Energy in Ceramic-to-Metal Seals"

Translation: A method is described for SHF measurement of the surface
resistivity of metal-ceramic junctions by means of a double T-shaped bridge.
It is shown that the surface resistivity of metal-to-ceramic seals is ap-
proximately an order of magnitude greater than for silver. Resumé.

1/1

ABUL'KHANOV, A.R.

Linear Systems

mechanics

DETERMINATION OF PARTIAL DAMPING COEFFICIENTS OF LINEAR SYSTEMS FROM THE
REPLIES OF FUNCTIONS OF RANDOM OSCILLATIONS

M. F. Dimentberg and A. R. Abul'khanov (Moscow)

A formula is derived for calculation of partial damping coefficients of
linear systems on the basis of values of the resonant frequency and real power
of intersections of the envelope of a narrow band random oscillation with its
mathematical expectation. The formula is concluded in the consideration of the
influence of the filter-analyzer used to separate the oscillations in the
degree of freedom being studied. Results are presented from experimental
checks of the accuracy of the method using electrical models.

USSR

IL'YUCHENOK, R. Yu. and AMIKADZE, G. V., Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlov, No 6, 1972, pp 1,135-1,141

traces. Serotonin plays an important part in the formation and preservation of conditioned reflexes. An optimum level of activity of the serotoninergic structures and of serotonin metabolism is needed for the normal course of the memory process.

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- 63 -

, USSR

IL'YUCHENOK, R. Yu. and ARULADZE, G. V., Institute of Physiology, Academy of Sciences USSR, Siberian Branch, Novosibirsk

"Neurochemical Aspects of the Formation of Electrographic and Behavioral Reactions"

Abstract: The literature and the authors' recent experiments on the role of neurochemical mechanisms in the production of electrographic and behavioral reactions of laboratory animals are reviewed. The adreno-, cholino- and serotoninoreactive structures of the brain trigger the activity of the reticular formation, hypothalamocortical, and specific sensory system and participate in the formation of memory traces. The involvement of the various cholinoreactive structures in the specific and nonspecific systems is derived from an analysis of their evoked and spontaneous electrical activity. Both the reticular formation and the hypothalamus can be stimulated pharmacologically. The effect of adrenergic drugs on the conduction of afferent spike activity in modulated through the reticular formation. The cortical cholinergic structures stimulate hypothalamic and reticular responses and evoked potentials in the cortex. Cholinergic structures are involved in the formation and reproduction of memory

1/2

USSR

UDC: 629.7.036.54:536.46

ABUGOV, D. I., BAZAROV, V. G., and LALAKHOV, N. M.

"Method for Suppressing High Frequency Oscillation in Pressure"

USSR Author's Certificate No 302143, filed 22 Mar 66, published 15 Sep 71 (from RZh-34. Aviatsionnyye i Raketnyye Dvigateli, Moscow, No 3, Mar 1972, Abstract No 3.34.104 F)

Translation: A method is patented for suppressing high frequency oscillations in pressure primarily in the KS (combustion chamber). This is done by inducing oscillations in the rate of fuel discharge through the injector with a frequency equal to the frequency being suppressed and with an amplitude which exceeds the maximum amplitude of random perturbations. Efficiency is increased by changing the phase of the induced oscillations to the opposite of the oscillation level achieved in the chamber which exceeds the given value. Resume.

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USSR

UDC 621.394.74

TUMANOVSKIY, YE.I., ABUGOV, A.G., GORODETSKIY, V.I., PODAKOV, A.S.

"Status And Prospects For Development Of Automatic Telegraph Switching Technics"

Sb. nauch. tr. Kiyev. fil. TsNII svyazi (Collection Of Works Of The Kiev Branch Of The Central Scientific-Research Institute Of Communications), 1970, Issue 6, pp 10-15 (from RZh--Elektrosvyaz', No 6, June 1971, Abstract No 6.64.249)

Translation: The characteristics are presented of register stations for telegraph exchange networks and direct connections. The principal operation-technical characteristics and the principles of construction of the prospective electronic system of switching telegraph channels are considered. Summary.

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USSR

KHALILOV, V. R., et al., USSR Author's Certificate No 345093, filed 24 Mar
70, published 10 Aug 72

impregnated with the polymerized flax under the same conditions did not
show signs of destruction.

2/2

USSR

UDC 621.357.1.035.2.1661.418(088.8)

KHALILOV, V. R., ABUBAKIROVA, F. S., GELIYEVA, T. N., GARIFZYANOV, A. G.,
VALITOV, R. B., Sterlimakov Chemical Factory

"A Process for Impregnating Graphite Objects"

Translation: A process is patented for the impregnation of graphite articles
(rods used during the electrolysis of NaCl and the production of chlorine and
sodium hydroxide) by polymerized flax oil in the presence of a catalyst. It
is improved in that in order to increase strength and chemical stability of
the articles, a peroxide compound, for example H_2O_2, was used as a catalyst.

The process was carried out in the normal manner. The flax oil was first poly-
merized in the presence of an intiator - 1 to 3 weight % H_2O_2 (30%) at 80°
for 10-20 hours. The graphite rod was impregnated with a newly prepared
polymer at 80° for 3 hours. After which, it was dried at the same temperature
for 4 hours. Drying of the oil resulted in its uniformity in the graphite
rod, chlorine and acid at high temperatures. The rod, impregnated with wax,
was destroyed after 6 months in the vat at a temperature of 90°. The rods
1/2

- 3 -

ABSHAYEV M. T.

SO: JPRS 60573
19 NOV 73

PROCEDURE AND APPARATUS FOR MEASURING THE ATTENUATION OF RADAR RADIATION IN
CLOUDS AND PRECIPITATION

In the last decade more and more attention has been given to quantita-
tive measurements in radar studies of atmospheric processes. The advantages
of radar measurements with respect to operativeness and volume of information,
the extended nature of the space covered and the possibility of measurements
at any time of the year or day in any weather have led to the broad application
of radar engineeringfor measuring precipitation, the microstructure and water
and water content of clouds, hail and thunderstorm indications, wind observa-
tions, and so on. The primary information is obtainedby interpretation of such
characteristics as the intensity and the Doppler frequency shift of the echo.

The very close relation of the cloud and precipitation parameters to
the attenuation of the microwave radiation in them could not until recently
be efficiently used as a result of the complexity and lack of operativeness of
measuring the attenuation characteristics (the total attenuation and the atten-
uation factor). The operative measurement of these characteristics would per-
mit a significant increase in effectiveness of quantitative measurements of
the cloud and precipitation parameters. For example, when studying precipita-
tion, as a result of the impossibility of measuring the distribution of the
attenuation with respect to area and in space, usually the relations of the
precipitation characteristics to the radar reflectivity are used although there
is a more unique relation of the integral characteristics of the precipitation
(water content, intensity) to the attenuation factor of the microradiowave
radiation.

This paper is devoted to finding the procedure and the apparatus for
automating the measurements of the attenuation factor and complete attenuation
and their distribution in the precipitation and cloud zones.

- 1 -

ABSHAYEV, M.T.

PROBLEMS OF TECHNICAL REALIZATION OF RADAR MEASUREMENTS OF HAIL

[Article by G. V. Vasil'yev, M. T. Abshayev, Kabardino-Balkar, Nal'chik, Russian, No. 2, ...]

Introduction

The broad development of radiotechnical devices for meteorological observations permits at this time successful solution of the problem of detecting a hail center in the clouds and measuring its parameters. These data are necessary for the organization of cloud modification to prevent hailstorms.

The work done in the last ten years with respect to radar examination of hail clouds has advanced an entire series of methods of hail detection and measurement. The method developed at the High Altitude Geophysics Institute and based on measuring the ratio of the radar reflectivity of a unit volume of the cloud for two wavelengths is of greatest interest.

Theoretical Principles of Measuring Hail Dimensions

According to the method of the High Altitude Geophysics Institute [1], the radar reflectivity η cm^{-1} of the same unit reflecting volume of a hail center must be determined simultaneously for two wavelengths $\lambda_1 = 1.2$ cm and $\lambda_2 = 10$ cm. In this case, in the small particle range (clouds and raindrops, gropel and hail less than 0.6–0.7 cm) for both wavelengths the conditions of Rayleigh scattering are satisfied, and the reflectivity ratio is equal to $\lambda_2/\lambda_1)^4 = 100$ independently of the intensity of the precipitation and the moisture content of the cloud. In the case of the presence of large hailstorms the scattering law for λ_2 differs significantly from the Rayleigh law, and on λ_1 these differences are exhibited to a lesser degree. Thus, as demonstrated in λ_1, λ_2, and so on), the ratio of the radar reflectivity for the two wavelengths is a function of the diameter of the scattering particles which is used as the basis for the hail indication method. The hail indication method in this case includes the solution of the following problem:

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UNCLASSIFIED   PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0120838
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHENAMINE (2.5 MG-KG) AND PYRIDROL
   (12.5 MG-KG) GIVEN I.P. TO RATS STIMULATED LOCOMOTOR ACTIVITY BEGINNING
   IN 30 MIN AND REACHING A MAX. EFFECT 1.5 HR POSTINJECTION. THE EFFECT
   ON LOCOMOTOR ACTIVITY WAS ACCOMPANIED BY INCREASES IN THE NA CONTENT AND
   DECREASES IN THE K CONTENT OF THE CEREBRAL CORTEX, MEDULLA OBLONGATA,
   AND PARTICULARLY BRAIN STEM CELLS, WITH CORRESPONDING DECREASES IN
   EXTRACELLULAR NA AND INCREASES IN EXTRACELLULAR K.   FACILITY:
   INST. FARMAKOL. KHIMIOTER., MOSCOW, USSR.

TITLE--EFFECT OF PSYCHOSTIMULANTS ON THE LOCOMOTIVE ACTIVITY OF RATS, AND
   ALSO UPON INTRA AND EXTRACELLULAR LEVELS OF POTASSIUM AND SODIUM IONS IN

AUTHOR-(02)-ABSAVA, G.I., VYSOTSKAYA, N.B.

COUNTRY OF INFO--USSR

SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(2), 134-7

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PSYCHOTHERAPEUTIC DRUG, BRAIN, SODIUM COMPOUND, POTASSIUM
   COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0138   STEP NO--UR/0390/70/033/002/0134/0137

CIRC ACCESSION NO--AP0120838
                         UNCLASSIFIED

USSR

ABSAVA, G. I., Farmakologiya i Toksikologiya, Vol 36, No 2, 1973, pp 176-179

respectively, 8.74+0.15 mEq/100g, 7.45+0.18 mEq/100 g, and 7.34+0.17 mEq/100 g. The stimulating effects of I and II were accompanied by elevation of Ca concentration in the cerebral hemispheres and the brain stem, with the maximum values attained by 1.5 h, and by 3.5 h had returned to initial levels. Mg concentrations in the cerebral hemispheres and the brain stem were slightly depressed by both I and II. However, neither I nor II elicited any changes in the Ca and Mg concentrations in the medulla oblongata. III had no effect in any of the tissues investigated. These findings are in line with current knowledge that the effects of III do not depend on bivalent ions, and that the pharmaco-logic actions of I and II are so dependent.

2/2

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